REQ. NO. 3-9116

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SASKATCHEWAN RESEARCH COUNCIL

CONTRACT REPORT NO. 1518087

Energy Mines and Resources Canada
Canada Centre for Mineral and Energy Technology
555 Booth Street
Ottawa, Ontario K1A 0G1
Attn: Dr. H.F. Steger

AUG 25 '83

Date Samples Received: 03-Aug-83 Client P.O.:

SAMPLE	CLIENT DESCRIPTION
5768	UTS-3 BOTTLE 925 *SOLIDS*
5769	UTS-4 BOTTLE 948 *SOLIDS*

ANALYTE	UNITS	5768	5769
	SLOWPOKE		
Th, N.A.A.	ug/g	10.2	15.0
Th, N.A.A.	ug/g	9.9	15.4
Th, N.A.A.	ug/g	9.2	15.5
Th, N.A.A.	ug/g	10.4	15.0
Th, N.A.A.	ug/g	10.2	15.9

CANMET RECORDS OFFICE
555 BOOTH ST.,
AUG 31 1983
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THORIUM RESULTS 1983 August 23

UTS-3 Bottle No. 66

UTS-4 Bottle No. 1098

Laboratory: Becquerel Laboratories Inc.

Subsample	Th (µg/g)	
	UTS-3	UTS-4
1	8.92	14.8
2	9.16	15.0
3	9.01	17.6*
4	9.17	15.2
5	8.90	14.7
	905	1596

Sample Weight:		
1	0.328g	0.204g
2	0.226	0.241
3	0.259	0.240
4	0.230	0.216
5	0.472	0.277

Method (brief outline):

Samples were irradiated overnight with reference standards in a SLOWPOKE nuclear reactor. After a decay period of 2 - 3 weeks, the Pa - 233 daughter of Th - 233 was relatively assayed in each sample and standard. A germanium detector equipped gamma-ray spectrometer was used. The measurements were based on the 312keV gamma-ray of Pa - 233 and the following nuclear reaction:

$$^{232}\text{Th}\ (n, \gamma)\ ^{233}\text{Th} \longrightarrow {}^{233}\text{Pa}$$

* see accompanying letter (R. Robertson to H. Steger, 1983 Aug. 23) for comment on this outlying result.

OCT 28 1989
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